

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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PCT

**NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)
(PCT Rule 71.1)**

Date of mailing
(day/month/year) **6 October 2005 (06.10.2005)**

Applicant's or agent's file reference 04PCP0003		IMPORTANT NOTIFICATION	
International application No. PCT/KR 2004/000908	International filing date (day/month/year) 21 April 2004 (21.04.2004)	Priority Date (day/month/year) 21 April 2003 (21.04.2003)	
Applicant SEOUL NATIONAL UNIVERSITY INDUSTRY FOUNDATION ET AL.			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/AT Austrian Patent Office Dresdner Straße 87 A-1200 Vienna/Austria FAX No. +43 / 1 / 53424-200	Authorized officer HOFBAUER Telephone No. +43 / 1 / 53424 - 225
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 04PCP0003	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/KR 2004/000908	International filing date (day/month/year) 21 April 2004 (21.04.2004)	Priority Date (day/month/year) 21 April 2003 (21.04.2003)
International Patent Classification (IPC) or national classification and IPC IPC⁷: C12N 5/06, 5/10		
Applicant SEOUL NATIONAL UNIVERSITY INDUSTRY FOUNDATION ET AL.		
1. This international preliminary examination report has been prepared by this International Preliminary Examination Authority and is transmitted to the applicant according to Article 36.		
2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.		
<input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).		
These annexes consist of a total of _____ sheets.		
3. This report contains indications relating to the following items:		
I. <input checked="" type="checkbox"/> Basis of the opinion II. <input type="checkbox"/> Priority III. <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV. <input type="checkbox"/> Lack of unity of invention V. <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI. <input type="checkbox"/> Certain documents cited VII. <input type="checkbox"/> Certain defects in the international application VIII. <input type="checkbox"/> Certain observations on the international application		

Date of submission of the demand 17.11.2004	Date of completion of this report 20 September 2005 (20.09.2005)
Name and mailing address of the IPEA/AT Austrian Patent Office Dresdner Straße 87 A-1200 Vienna Facsimile No. 1/53424/200	Authorized officer MOSSER R. Telephone No. 1/53424/437

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/KR 2004/000908

I. Basis of the report

1. With regard to the elements of the international application:*

the international application as originally filed

the description:

pages _____, as originally filed
 pages _____, filed with the demand
 pages _____ filed with the letter of _____.

the claims:

pages _____, as originally filed
 pages _____, as amended (together with any statement) under Article 19
 pages _____, filed with the demand
 pages _____ filed with the letter of _____.

the drawings:

pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____.

the sequence listing part of the description:

pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

the language of publication of the international application (under Rule 48.3(b)).

the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in printed form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

the description, pages _____.

the claims, Nos. _____.

the drawings, sheets/fig. _____.

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as „originally filed“ and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/KR 2004/000908**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****I. Statement**

Novelty (N)

Claims 1-7

YES

Claims ---

NO

Inventive step (IS)

Claims 1-7

YES

Claims ---

NO

Industrial applicability (IA)

Claims 1-7

YES

Claims ---

NO

Citations and explanations (Rule 70.7)

The following documents are cited in the international search report:

WO 1994/007997 A1

WO 1999/006534 A1

WO 2003/024200 A2

Long time culturing of primordial germ cells (PGCs) is an established method. For example WO 1994/007997 A1 and WO 1999/006534 A1 disclose culturing of PGCs in vitro for at least 5 days. Both documents reveal isolation methods, culturing conditions and growth factors which are necessary to keep the cells alive. That means features (a) and (b) of claim 1 are described in prior art documents. WO 1994/006534 A1 propose to use the cultured cells for research, insertion of desired DNA sequences, development of large colonies of cells which resemble embryogenic stem cells etc. However, in the present application it was shown that the germline transmission efficiency can be improved with long time cultures PGCs. The transmission efficiency of cells treated with a method according to claim 1 is better than with cells gained with a routine Ficoll separation method. This aspect was not taken in consideration in WO 1994/007997 A1 and WO 1999/006534 A1. Consequently, the subject-matters of claims 1-3 are novel and inventive. Thus, dependent claims 4-17 comply the requirements of novelty and inventive step as well. Example 8 of WO2003/024200 A2 concerns germline transmission. But this document neither concerns long time culturing of PGCs nor the improvement of germline transmission of said cells. Accordingly the subject-matter of claims 1-17 is not obvious from the cited documents. The industrial applicability is obvious.